

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/14561

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> H03H11/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl<sup>7</sup> H03H11/04, H03H11/12Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004  
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                     | Relevant to claim No. |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Y         | JP 8-191231 A (Sony Corp.),<br>23 July, 1996 (23.07.96),<br>Par. Nos. [0044] to [0072]; Figs. 1 to 4<br>& GB 2296835 A & TW 281829 A<br>& US 5942935 A | 1                     |
| Y         | JP 8-204504 A (Asahi Kasei Microsystems Co.,<br>Ltd.),<br>09 August, 1996 (09.08.96),<br>Par. Nos. [0024] to [0047]; Figs. 1 to 7<br>(Family: none)    | 1                     |
| Y         | JP 2001-203574 A (NEC IC Miconsystem Kabushiki<br>Kaisha),<br>27 July, 2001 (27.07.01),<br>Par. Nos. [0021] to [0062]; Figs. 1 to 5<br>(Family: none)  | 1                     |

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| * Special categories of cited documents:                                                                                                                                | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention                                              |
| "A" document defining the general state of the art which is not considered to be of particular relevance                                                                | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone                                                                     |
| "E" earlier document but published on or after the international filing date                                                                                            | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" document member of the same patent family                                                                                                                                                                                                    |
| "O" document referring to an oral disclosure, use, exhibition or other means                                                                                            |                                                                                                                                                                                                                                                  |
| "P" document published prior to the international filing date but later than the priority date claimed                                                                  |                                                                                                                                                                                                                                                  |

Date of the actual completion of the international search  
19 March, 2004 (19.03.04)Date of mailing of the international search report  
06 April, 2004 (06.04.04)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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PCT/JP03/14561

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                | Relevant to claim No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Y         | JP 3-65812 A (Toshiba Corp.),<br>20 March, 1991 (20.03.91),<br>Full text; Figs. 1, 2<br>(Family: none)                                                                            | 1                     |
| A         | JP 7-86873 A (Toshiba Corp.),<br>31 March, 1995 (31.03.95),<br>Full text; all drawings<br>& EP 0626795 A2                                                                         | 1                     |
| A         | JP 5-347537 A (NEC Corp.),<br>27 December, 1993 (27.12.93),<br>Full text; all drawings<br>& US 5416438 A                                                                          | 1                     |
| A         | JP 11-177379 A (NEC Corp.),<br>02 July, 1999 (02.07.99),<br>Full text; all drawings<br>& US 6366161 A                                                                             | 1                     |
| A         | JP 2002-94357 A (Matsushita Electric Industrial<br>Co., Ltd.),<br>29 March, 2002 (29.03.02),<br>Full text; all drawings<br>& EP 1172933 A2 & CN 1333597 A<br>& US 2002/0011896 A1 | 1                     |
| A         | JP 10-303699 A (Asahi Kasei Microsystems Co.,<br>Ltd.),<br>13 November, 1998 (13.11.98),<br>Full text; all drawings<br>(Family: none)                                             | 1                     |